UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 8, 1999

Mr. William R. McCollum, Jr.
Vice President, Oconee Nuclear Site
Duke Energy Corporation (Duke)
P. O. Box 1439
Seneca, SC 29679

SUBJECT: PLAN FOR THE RESOLUTION OF SCOPING ISSUE RELATED TO THE REVIEW OF THE OCONEE NUCLEAR STATION (ONS), UNITS 1, 2, AND 3, LICENSE RENEWAL APPLICATION (LRA)

Dear Mr. McCollum:

The purpose of this letter is to provide you with the Nuclear Regulatory Commission (NRC) staff's plan for resolving open item 2.1.3.1-1 of the safety evaluation report (SER) related to the license renewal of ONS Units 1, 2, and 3. As you are aware, the staff committed to providing you with a plan for resolving this open item in an August 27, 1999, management meeting.

Background:

The staff issued the SER related to the license renewal of ONS Units 1, 2, and 3 on June 16, 1999. Section 2.1 of the SER discusses the staff's assessment of Duke's methodology for identifying structures, systems and components (SSCs) subject to an aging management review. One aspect of the staff's review was the scoping process that Duke used to comply with the requirements of 10 CFR 54.4(a)(1) and 10 CFR 54.4(a)(2). The NRC originally questioned aspects of Duke's scoping process in request for additional information (RAI) 2.2-6 that Duke responded to in a February 17, 1999, letter. A technical meeting was held on March 11, 1999, to further discuss the scoping issue. The meeting resulted in a revision to Duke's response to RAI 2.2-6 dated March 18, 1999, that provided an explanation of the set of events Duke used to determine what mechanical systems or components at ONS are within the scope of license renewal.

Following the revision, the scoping issue remained open, leading to a May 11, 1999, management meeting to discuss the issue. In the May 11, 1999, meeting, Duke explained that there were 26 events that were considered scoping events that were used in the scoping process for mechanical systems and components. Duke also explained that an additional 32 events had been considered for possible inclusion into the set of scoping events. The May 11, 1999, management meeting resulted in action items that were carried forth as open item 2.1.3.1-1 in the SER.

In an attempt to resolve open item 2.1.3.1-1, the staff visited the ONS site from August 16-18, 1999, to review material associated with the scoping process. The staff's intention during the August site visit was to probe the additional 32 events that were considered for possible inclusion into the scoping event set to understand why those events were excluded from that set The staff asked specific questions about the licensing basis related to the following events: high energy line break, loss of decay heat removal, updated steam generator tube rupture analysis,

loss of spent fuel pool cooling, loss of heating, ventilation, and air conditioning to the control room, and fuel handling accident. A meeting summary dated August 27, 1999, provides details on the results of the staff's visit.

During the management meeting on August 27, 1999, and documented in the summary dated September 7, 1999, the staff stated that the purpose of its review is to develop sufficient information to describe the scoping methodology in the SER, which will provide a technical basis from which the NRC staff can conclude that there is reasonable assurance that the methodology will identify those SSCs that are relied upon to remain functional during and following design-basis events (these SSCs are necessary to ensure the functions identified in 10 CFR 54.4(a)(1)). The staff also stated that it had expected that, while the Commission had concluded that the current licensing basis (CLB) did not need to be compiled for renewal, licensees would use their CLB's (as it is defined in 54.3 and explained in NEI 95-10) to ensure that the renewal scoping process would apply a broad set of design basis events (beyond those *accidents* and *events* explicitly described in updated final safety analysis report (FSAR) accident analysis chapter) to address all of the safety functions identified by Section 54.4. In the letter to NEI regarding generic renewal issue 98-082, "Scoping Guidance", the staff described this expectation in relation to a definition of design basis events as *all events for which the plant must be designed* (using the language of 10 CFR 50.49).

Duke has explained that they have a particular meaning and practice related to the term "design basis events" and its use in maintaining the CLB. Thus, the methodology for the ONS relies on Chapter 15 FSAR events and selected "scoping events" (which Duke calls design conditions), with the same apparent intent as the staff's expectation. In addition, Duke identified particular component functions, that are associated with some of the 32 "excluded" events. A number of these functions have been or are being included in the scope of the aging management review because of changes in the licensing basis or because the components were included based on another scoping criterion.

Proposed Plan for the Resolution of SER Open Item 2.1.3.1-1:

The staff believes that the resolution of a finding on the methodology needs to determine whether the "event set" resulting from the application of Duke's methodology, as supplemented by additional "scoping events" associated with SSC functions in the CLB, is sufficient for the purpose of scoping. The staff further believes that this issue can be resolved by defining a set of events broader than the set Duke used as input to its scoping methodology. Consideration of this broader set of events could verify that all SSC's at ONS relied upon to remain functional to ensure the functions identified in 10 CFR 54.4(a)(1) were evaluated in the Duke application as being within the scope of license renewal. Such verification could demonstrate that Duke's conclusion on scoping did not depend on the events considered.

Duke has stated that, for some events that were not considered to be scoping events (e.g., high energy line break and loss of decay heat removal), no additional SSCs would be captured because the SSCs were screened into the mechanical scoping process for other reasons. The staff believes that more events should be reviewed to determine if they would identify any SSC functions that might be considered necessary to ensure the functions identified in 10 CFR 54.4(a)(1). The specific events of interest and the information needed to determine what

structure or component functions might be relied on to prevent or mitigate those events is described in the enclosure.

The staff proposes to meet with Duke to discuss the information needs described in the enclosure and to determine whether there are any SSC functions that appear to be relied on for the specified events that Duke may not have included within the scope of license renewal. The staff expects to discuss these events and SSCs with Duke to clarify the current licensing basis with respect to those functions. The staff expects Duke to review the licensing commitments in the following documents to determine if an event should be addressed by the scoping process: the final safety analysis report, license conditions, Commission orders, exemptions, and Commission regulations. If the SSC function associated with the postulated scoping event is not reflected in any of these documents the staff will not consider the SSC to be within scope of license renewal. However, if there is a function described in these documents that is relied on for the associated event, the staff would expect that the SSC(s) would be screened for an aging management review.

Upon completion of this meeting, Duke should document the results of the meeting in the form of a supplement to the description of the scoping methodology in the application, with an explanation of the review that Duke conducted to ensure that all of the SSCs under 10 CFR 54.4 have been included in the scope of license renewal. Duke may reference information already provided in response to the NRC staff's request for additional information. In particular, Duke should describe how the scoping has been supplemented by actions taken since the application was submitted to add SSCs to the scope of license renewal. Duke should also document the results of this meeting to explain the extent to which the licensing basis reflects other scoping events for mechanical components that have been or will be subjected to an aging management review. Duke should clearly identify these additional events and any associated components that perform safety functions relied on in the licensing basis. The documentation should identify the additional components and their licensing basis functions. The explanation of the SSCs related to commitments in the CLB for a broader set of events that have been or are being included within the scope of license renewal would constitute the basis upon which the staff would find the results of Duke's mechanical scoping methodology acceptable.

Joseph Sebrosky will arrange this meeting with your staff. If you have any questions regarding this issue please contact either me at 301-415-1183, or Mr. Sebrosky at 301-415-1132.

Sincerely,

CI Grimes

Christopher I. Grimes, Chief
License Renewal and Standardization Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket Nos. 50-269, 50-270,
and 50-287
Enclosure: As stated
cc w/encl: See next page

## DETERMINATION OF SCOPING EVENTS

The scoping of systems, structures and components (SSCs) required under 10 CFR 54.4(a)(1) include those SSCs that are relied upon to remain functional during and following events for which the plant must be designed to ensure the following: (1) the integrity of the RCS pressure boundary; (2) the capability to maintain the plant in a safe shutdown condition; or (3) the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposure comparable to the guidelines of §50.34(a)(1) or §100.11. On the basis of this requirement, an applicant needs to identify the SSCs that are relied upon to remain functional during and following conditions of normal operation, including all anticipated operational occurrences, design basis accidents, natural phenomena, and external events identified in its updated final safety analysis report (UFSAR), Commission orders, Commission regulations, exemptions, and license conditions and which also meet the criteria under 10 CFR 54.4 (a)(1)(i)(ii), and (iii).

Based on the above, the staff believes that Duke needs to review its UFSAR (in its entirety), Commission orders, the applicable regulations, exemptions, and license conditions to determine if the licensing basis describes a plant design capability to prevent or mitigate the events listed below. In a limited review of the Oconee Nuclear Station (ONS) UFSAR, license conditions, Commission orders, and exemptions, the staff identified references in these documents that, at a minimum, need to be addressed by Duke in its assessment and response to this issue. The references are listed after the events. For some events the staff did not identify references in the above documents. In these cases, the staff expects Duke to ensure during the course of its review that the event need not be considered a scoping event for license renewal. If Duke finds that a structure or component is relied upon in the licensing basis as described above for any of these events, Duke should identify all applicable intended function(s) relating to the event, and identify whether any additional SSCs need to be included within the scope of license renewal.

High Energy Line Break

- UFSAR, § 3.1.40
- UFSAR, § 3.5.1
- UFSAR, § 3.5.1.2.3
- UFSAR, § 3.6

Loss of Decay Heat Removal

- UFSAR, § 1.2.2.10
- UFSAR, § 3.1.6
- UFSAR, § 3.9.2.4.4.1
- UFSAR, § 9.2.2.2.1
- UFSAR, § 9.6.1
- UFSAR, § 9.6.2
- UFSAR, § 9.6.3.3
- UFSAR, § 10.4.7.1
- Confirmatory Order dated August 6, 1987

Loss of Spent Fuel Cooling - Heat transfer function

- UFSAR, § 3.1.67
- UFSAR, § 3.8.4
- UFSAR, § 3.8.4.4
- UFSAR, § 9.1.3.1
- UFSAR, § 9.1.3.2
- UFSAR, § 9.1.3.3.2
- UFSAR, § 9.1.3.4

Loss of Control Room

- UFSAR, § 3.1.11
- UFSAR, § 6.4
- UFSAR, § 7.7.5.1
- UFSAR, § 7.7.5.2
- UFSAR, § 9.4.1

Steam Generator Overfill/Dryout

- UFSAR, § 9.2.2.2.1

Loss of Instrument Air and Internal Flooding (Auxiliary Building)

The staff did not identify any reference to loss of instrument air or internal flooding during its review. However, Duke should perform a review of its UFSAR, the regulations, license conditions, exemptions, and Commission orders to verify that these events need not be considered a scoping event for license renewal.

Control of Heavy Loads

The staff did not identify any reference to control of heavy loads during its review, other than those related to fuel handling accidents, which are included as design basis accidents in the scoping methodology. However, Duke should perform a review of its UFSAR, the regulations, license conditions, exemptions, and Commission orders to verify that control of heavy loads need not be considered a scoping event for license renewal.

Loss of Condensate

Some portions of the condensate system have been included in the scope of license renewal. However, Duke should perform a review of its UFSAR (particularly Chapter 10 which describes the function and importance of the condensate system), the regulations, license conditions, exemptions, and Commission orders to verify that loss of the condensate system need not be considered a scoping event for license renewal.

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